

UNIVERSITY OF SASKATCHEWAN
COLLEGE OF AGRICULTURE



Field Peas in Saskatchewan

Contributed by

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Dominion Laboratory of Plant Pathology

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Stem, leaf, and pod spot caused by the Ascochyta fungus

SASKATOON, Saskatchewan

FIELD PEAS IN SASKATCHEWAN

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Field peas have been a very profitable crop in certain areas in Saskatchewan, particularly during the war years. There are, however, certain factors which limit the success of this crop, among them, disease. The presence of the Ascochyta diseases, for instance, prevents registration and certification of a crop for seed because these diseases are seed-borne.

Peas add nitrates to the soil when nodules form on the roots and when the trash and straw can be worked into the soil.

VARIETIES

The popular varieties are Dashaway, Arthur, Chancellor, Guinivere, and Mackay. In addition, the varieties Alaska, Onward, Thomas Laxton, and Laxton's Progress, have been grown in a rather small way to satisfy a special demand for canning pea seed stocks.

SUITABLE AREAS AND YIELDS

Peas are not drought resistant and require more frequent rainfall and more moisture near the surface of the soil than cereal crops. The greatest success with the crop has been attained in the parkbelt area, particularly in the Domremy, Nipawin, Codette, and Kelvington districts where yields on the average have been very good.

SOIL

Peas yield best on loamy soils (clay loams to the better sandy loams) of the black and degraded black soil zones. Clean summer-fallow should be used because a moist firm seed bed and freedom from weeds are necessary. Peas do not compete well with weeds.

SEEDS AND SEEDING

Best results are obtained from solid seeding at a depth of 2 to $2\frac{1}{2}$ inches and only high-grade disease-free seed should be used. Registered and certified seed fill these requirements. All seed should be treated with Ceresan at the rate of one ounce per bushel at least a week before seeding. The rate of seeding recommended in the case of a small-seeded variety, such as Dashaway, is 120 to 150 pounds per acre, while in the case of a larger seeded variety, such as Arthur, the rate should be 150 to 180 pounds per acre. Seeding should be

done as soon as the land is in good condition and danger of heavy frosts is past.

The use of fertilizers adapted to the area is recommended. Like other legumes, peas require a great deal of sulphur and phosphorus. Two fertilizers are available which supply these elements. They are 16-20-0 ammonium phosphate, and 2-20-0 ammoniated superphosphate. Either of these would be beneficial in many of the soils of the parkbelt. In addition, 11-48-0 ammonium phosphate, which carries no sulphur, would be suitable in the drier parts of the parkbelt. All of these fertilizers should be used at the rate of 50 pounds per acre.

HARVESTING

Peas make a very satisfactory crop for straight combining, although swathing prior to the combine also has proved successful. The latter method is advantageous in weedy crops.

Cylinder speed on the thresher should be reduced to about 500 R.P.M. and concave adjustments made to prevent cracking of the peas.

MARKETING

There has been a heavy demand on the soup and cooking pea market for peas that will boil easily and not remain hard. Anyone intending to grow peas for this market should find out whether peas of this type can be grown in his district. This can be done by asking other growers or by planting a small area and having the peas from it tested for boiling or for soup.

There is a limited though steady market, also, for peas that are free of disease. Some districts can produce such seed and are able to supply commercial pea growers with it.

DISEASES AND THEIR CONTROL

Diseases may affect stand, yield and quality of peas. The most serious diseases of peas develop and spread during periods of rainfall, dew, etc., and are checked effectively by dry conditions.

The following are brief descriptions of some of these diseases, and some measures of control. Dust fungicides like Ceresan are recommended for peas; formalin should not be used.

Seed rot and seedling blight reduce the early stand and **rootrots** kill plants during the growing season. These plants wilt and turn yellow. Seed treatment improves the stand.

The **Ascochyta diseases** are the most important. They cause seedling blight, spotting of the stems, leaves, and pods, and blighting of the blossoms and young pods. They are chiefly seed-borne but

one form may be spread by wind, also. The spots are tan to purplish brown in colour, and pin-point to splotchy in size. Damage may be severe in wet weather. (See illustration).

Seed treatment is only partially effective in these diseases. Obtain disease-free seed and plant it on summerfallowed land which has not had peas on it for 3 to 4 years. Destroy pea trash in the fall or spring by burning or ploughing.

Bacterial blight is seed-borne. It causes watery spots at first on the stems, leaves and pods; later, these turn brown and glistening in appearance. Obtain disease-free seed and avoid planting peas on pea stubble.

Minor diseases are Septoria blotch, mosaic, and mildew. These cause slight damage to stems, leaves, and pods. Destroy or bury pea trash to limit the spread of these diseases.

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